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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,142	09/27/2005	Henrik Jensen	55320.000401	3201
21967 7590 01/23/2008 HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109				
EXAMINER				
SMITH, JENNIFER A				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,142

Applicant(s)

JENSEN ET AL.

Examiner

JENNIFER A. SMITH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 72-144 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1 and 72-144 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Status of Application

Claims 1 and 72-74 have been amended. Claims 2-71 have been canceled.
Claims 75-144 are new.

Restrictions

Restriction is required under 35 U.S.C. 121 and 372. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I claim(s) 1, 75-136, drawn to a method of manufacturing a metal oxide, metal oxidhydroxide or metal hydroxide product.

Group II, claim(s) 72-74, drawn to an apparatus for manufacturing a metal oxide, metal oxidhydroxide or metal hydroxide product

Group III, claim(s) 137-144, drawn to a metal oxide, metal oxidhydroxide or metal hydroxide product

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature which is referred to Annex B of Appendix A1 of the MPEP(Administrative Instructions under the PCT, "Unity of Invention"). Unity exists only when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding claimed technical features. The express "special technical features" is defined as meaning those technical features that define a contribution which each of the inventions, considered as a whole, makes over the prior art."(Rule 13.2).

In the instant case the common technical feature among the claimed inventions I-III is a metal oxide, metal oxidhydroxide or metal hydroxide product. The question of unity of invention has been reconsidered retroactively by the examiner in view of the search performed; a review of Sarrade et al. US Patent No. 6,387,341 (D1, hereafter) makes clear that the claimed species is not novel over the prior art (the instantly claimed metal oxide product and apparatus and method of manufacturing it). Furthermore, these references appear to demonstrate that the claimed metal oxide does not define a contribution which each of the inventions, considered as a whole, makes over the prior art. Accordingly, the prior art of the record supports restriction of the claimed subject matter in to the groups as mentioned immediately above.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

Election of Species – Invention I

This application contains claims directed to more than one species of the generic invention I. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- i. the product is substantially crystalline (Claim 76)*
- ii. the product is substantially amorphous (Claim 77)*
- iii. the product is a mixture of several different phases (Claim 78)*
- iv. the temperature is kept at a fixed temperature (Claim 82)*
- v. the temperature is an increasing temperature (Claim 83)*

- vi. the temperature is a decreasing temperature (Claim 84)
- vii. the temperature profile is an arbitrary combination (**Claim 85**)
- viii. *the pressure is kept at a fixed pressure (Claim 87)*
- ix. *the pressure is an increasing pressure (Claim 88)*
- x. *the pressure is a decreasing pressure (Claim 89)*
- xi. *the pressure profile is an arbitrary combination (**Claim 90**)*
- xii. the supercritical solvent is CO₂ (Claims 91-92)
- xiii. the supercritical solvent is isopropanol (Claims 93-94)
- xiv. *the supercritical solvent is brought into phase before introduction (Claim 95)*
- xv. *the supercritical solvent is brought into phase after introduction (Claim 96)*
- xvi. introducing a plurality of different metal precursors into the reactor (**Claim 100**)
- xvii. metal precursor is metal alkoxide (Claims 101-104)
- xviii. metal-containing precursor is a metal salt (Claims 105-107)
- xix. *the solid reactor filling material comprises a polymer (Claims 117-119)*
- xx. *the solid reactor filling material comprises a metal (Claims 120-121)*
- xxi. *the solid reactor filling material comprises a metal oxide (Claims 122-123, 127)*
- xxii. *the solid reactor filling material comprises a ceramic (Claim 124)*
- xxiii. *the solid reactor filling material comprises a metal sulphate (Claim 125)*
- xxiv. *the solid reactor filling material comprises a metal halide (Claim 126)*

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xxv. product is separable from the solid reactor filling material with no further treatments of the solid reactor filling material (Claim 130)

xxvi. product is separable from the solid reactor filling material without substantially degrading the solid reactor filling material (Claim 131)

xxvii. product is separable from the solid reactor filling material in a way that allows the solid reactor filling material to be re-used as solid reactor filling material (Claim 132)

xxviii. product is separable from the solid reactor filling material by flushing the solid reactor filling material in a fluid (Claim 133)

xxix. product is separable from the solid reactor filling material by vacuum means (Claim 134)

xxx. product is separable from the solid reactor filling material by blowing means (Claim 135)

xxxi. product is separable from the solid reactor filling material by ultrasonic means (Claim 136)

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

Claim 78 is generic of claims 76-77

Claim 85 is generic of claims 82-84

Claim 90 is generic of claims 87-89

Claim 100 is generic of claims 95-96

The following claim(s) are generic: 78, 85, 90, 100.

Lack of unity of invention may be directly evident "a priori," that is, before considering the claims in relation to any prior art, or may only become apparent "a posteriori," that is, after taking the prior art into consideration. For example, independent claims to A + X, A + Y, X + Y can be said to lack unity a priori as there is no subject matter common to all claims. In the case of independent claims to A + X and A + Y, unity of invention(i.e. species) is present a priori as A is common to both claims.

Because a specific composition(species) found in claims 10-12, 14-15 and 18-23 is directed to a combination product where the combination product is not obvious over a

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combination product containing different materials(materially different chemical compound) under USC 103, a combination product is considered to be a patentably distinct over other combination product. The species are distinct, as not all species encompassed by the genus would be classified together. Furthermore, even if there were unity of classification, the search of the entire genus in the non-patent(a significant part of a thorough examination) would be burdensome.

Because a specific composition(species) found in claims 10-12, 14-15 and 18-23 is directed to a combination product where the combination product is not obvious over a combination product containing different materials(materially different chemical compound) under USC 103, a combination product is considered to be a patentably distinct over other combination product. The species are distinct, as not all species encompassed by the genus would be classified together. Furthermore, even if there were unity of classification, the search of the entire genus in the non-patent(a significant part of a thorough examination) would be burdensome.

Rejoinder Practice

The examiner has required restriction between product and process claims.

Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise

require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Joint Inventors

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one

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or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Conclusion

Claims 2-71 have been canceled.

Claims 1, and 72-144 are subject to restriction and election.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Smith whose telephone number is 571-270-3599. The examiner can normally be reached on Monday - Friday, 8:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Smith
January 18, 2008
TC

JS

/Vickie Kim/
Supervisory Patent Examiner, Art Unit 4116